AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A method for an acyltransferase reaction in which an acyl group of acyl coenzyme A (acyl CoA) is transferred ~~characterized in that~~ to an acyl group receptor to yield a desired product via a macromolecular polymerization reaction, said method comprises carrying out a combination of (i) the acyltransferase reaction ~~is carried out~~ by production and/or reproduction of an acyl coenzyme A from a coenzyme A in a reaction system by a chemical thioester exchange reaction with an acyl group donor which is an acyl ester of a thiol compound, and (ii) a macromolecular polymerization reaction,

wherein the acyl group donor, the acyl group receptor, the coenzyme A and an acyltransferase are contained in the reaction system at the same time, an acyl group of the acyl group donor is transferred to coenzyme A by the chemical thioester exchange reaction to give an acyl coenzyme A and an acyl group of the acyl coenzyme A is transferred to the acyl group receptor,

wherein the acyl group receptor is selected from the group consisting of hydroxyl alkanoate CoA (HA-CoA) and poly(hydroxyl alkanoate) (PHA-CoA), and

wherein the acyltransferase is polyhydroxy alkanoate synthase.

2. (canceled).

3. (currently amended): The method for acyltransferase reaction according to ~~claim 2~~ claim 1, wherein the method is carried out together with production and/or reproduction of acyl coenzyme A by an acyl group of the acyl group donor.

4. (currently amended): The method for acyltransferase reaction according to ~~claim 2~~ claim 1, wherein the thiol compound is aromatic thiol.

5. (original): The method for acyltransferase reaction according to claim 4, wherein the aromatic thiol is thiophenol which may optionally contain a substituent group(s).

6.-11. (canceled).

12. (currently amended): The method for acyltransferase reaction according to claim ~~11~~1, wherein an acyltransferase reaction is repeated using acyl coenzyme A or a product by the acyltransferase reaction as an acyl group receptor whereby ~~the~~ a macromolecular compound is produced.

13. (original): The method for acyltransferase reaction according to claim ~~11~~1, wherein the acyl ~~thio~~ester of a thiol compound is acyl ester of aromatic thiol.

14. (original): The method for acyltransferase reaction according to claim 13, wherein the acyl ester of aromatic thiol is hydroxyalkanoate thiophenyl ester.

15. (original): The method for acyltransferase reaction according to claim 14, wherein the hydroxyalkanoate thiophenyl ester is 3-hydroxyalkanoate thiophenyl ester.

16. (original): The method for acyltransferase reaction according to claim 15, wherein the 3-hydroxyalkanoate thiophenyl ester is 3-hydroxybutyrate thiophenyl ester.

17. (canceled).

18. (currently amended): The method for acyltransferase reaction according to ~~claim 17~~ claim 1, wherein the polyhydroxy alkanoate synthase is derived from genus *Ralstonia* and is prepared by a process comprising:

digesting genomic DNA of *Ralstonia eutropha* ATCC 17699 with a restriction enzyme EcoRI and a restriction enzyme SmaI to obtain an EcoRI and SmaI fragment containing a polyhydroxy synthase gene,

cloning the polyhydroxy alkanoate synthase gene into a plasmid,

amplifying the polyhydroxy alkanoate synthase gene using a polymerase chain reaction,

inserting the polyhydroxy alkanoate synthase gene into a plasmid pQEREC,

transforming the plasmid pQEREC containing the polyhydroxy alkanoate synthase gene into *Escherichia coli* BL 21 (pREP4) to obtain *Escherichia coli* BL21 (pQEREC) containing the polyhdyroxyalkanoate synthase gene,

incubating the *Escherichia coli* BL21 (pQEREC) containing the polyhdyroxyalkanoate synthase gene in LB medium, and

purifying the polyhydroxyalkanoate synthase.

19. (canceled).

20. (canceled).

21. (withdrawn): A production process of a sphingoid base using the acyltransferase reaction claimed in claim 7.

22. (withdrawn): The production process according to claim 21, wherein the sphingoid base is 3-ketodihydrosphingosine.

23. (withdrawn): A production process of a ceramide using the acyltransferase reaction claimed in claim 10.

24. (withdrawn): In a production process of a macromolecular compound using the acyltransferase reaction claimed in claim 11 above, a production process of polyester in which the macromolecular compound is polyester.

25. (withdrawn): The production process of the polyester according to claim 24, wherein the polyester is polyhydroxy alkanoate.

26. (withdrawn): The production process of the polyester according to claim 25, wherein the polyhydroxy alkanoate is poly(3-hydroxy alkanoate).

27. (withdrawn): The production process of the polyester according to claim 26, wherein the poly(3-hydroxy alkanoate) is poly(3-hydroxy butyrate).